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DERWENT-ACC-NO: 1977-D1735Y
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TITLE: Plastic mesh snow grip for tyre - with metal reinforced plastic strands woven in two interlocking patterns

PATENT-ASSIGNEE:

ASSIGNEE	CODE
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PRIORITY-DATA: 1974AT-0009822 (December 9, 1974)

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PATENT-FAMILY:

	PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
☐	CH 585117 A	February 28, 1977		000	
☐	AT 7409822 A	November 15, 1976		000	
☐	CA 1022444 A	December 13, 1977		000	
☐	IT 1024462 B	June 20, 1978		000	

INT-CL (IPC): B60B 0/00; B60C 27/18

ABSTRACTED-PUB-NO: CH 585117A
BASIC-ABSTRACT:

The plastic snow grip has a main mesh of plastic threads reinforced by fibre or metal inserts. The edges of the grip are looped over elastic mesh weave to secure the grip on the tyre. The mesh has a looped construction with two types of thread in two-interlocking patterns.

The mesh has an improved grip on all types of surface and does not damage the road surface. It is simple to fit and quiet in operation.

TITLE-TERMS: PLASTIC MESH SNOW GRIP TYRE METAL REINFORCED PLASTIC STRAND WOVEN TWO INTERLOCKING PATTERN

DERWENT-CLASS: Q11

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C.R. CL.

(19) (A) # CANADIAN PATENT

(54) RETICULAR ANTI-SKID DEVICE FOR MOTOR-VEHICLE TIRES

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(21) APPLICATION No. 216,395
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No. OF CLAIMS 2

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A B S T R A C T

A reticular anti-skid device for motor-vehicle tires is disclosed which is made up of non-woven cords having individual synthetic plastic filaments interconnected in meshed fashion at predetermined intervals. The invention is characterized in that the individual filaments forming a non-woven cord are made from polyurethane having an inner reinforcement made from either natural fibre filaments, or synthetic plastic fibre filaments, or synthetic plastic filaments, or metal filaments. The inner reinforcement is preferably formed by either polyamide, or polyester filaments. It is preferred that the individual filaments of each cord are knitted cross-wise on two needle bars each.

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This invention relates to a reticular anti-skid device for motor-vehicle tires to prevent them from sliding on a yielding surface, in particular a snow-covered surface, and comprises non-woven cords having individual plastic filaments interconnected in meshed fashion at predetermined intervals.

It forms part of the art to combine polyamide filaments so as to form a cord and to interconnect thus manufactured single cords in meshed fashion so as to form a reticulum. A net-like structure of this kind may be used to protect motor-vehicle tires from sliding (snow chain). However, it is necessary to coat each individual cord with a rubber layer, because a polyamide cord affords but an insufficient resistance to abrasion when used in a snow tire chain. Such a step requires another costly process, without a guarantee of the strength desired.

The object of the present invention is to be seen in the manufacture of a reticular anti-skid device for motor vehicle tires, guaranteeing a simple manufacture, sufficient resistance to abrasion and easy mounting.

This object is achieved by means of a reticular anti-skid device for motor-vehicle tires comprising knitted cords having individual synthetic plastic filaments and being interconnected in meshed fashion at predetermined intervals thereby forming a net, wherein the free ends of the individual cords in the device are interconnected by means of bonding or glueing, the individual filaments forming each knitted cord are made from polyurethane having an inner reinforcement made from either natural fibre filaments, or synthetic plastic fibre filaments, or synthetic plastic filaments, or metal filaments, the individual filaments of each cord are knitted cross-wise on two needle bars each, and at the outer edges of the device the cords are enmeshed at predetermined intervals with an elastic cord.

According to a preferred embodiment of this invention, it is further suggested that the inner reinforcement be made from either polyamide, or polyester filaments.

Easy handling when mounting the anti-skid device on a tire is substantially dependant upon the construction of the endless reticular strip. The

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cord of meshed elastic filaments has proven to be particularly advantageous.

The progress achieved by the reticular anti-skid device according to this invention is to be seen in that the utilization of filaments of a specific plastic material with an inner reinforcement and the intermeshing of these filaments so as to form a cord provides the desired resistance to abrasion by a cost-saving process. The meshed structure of the individual cord permits machine entwining of the individual cords in a single operation without knots. The mounting of such a strip is easy, because the annular reticulum is simply placed on top of a tire and the lateral elastic cord provides the necessary tension. Moreover, it is advantageous that the utilization of plastic material as the basic material does not cause any damage during driving to either tire or road surface. In addition, there is the guarantee of quiet running on different road surfaces. Further advantages over conventional snow tire chains are to be seen in greater possible driving speeds and in the rust-free feature of the material.

This invention is described hereunder in detail with the aid of the drawings illustrating an embodiment as follows:

Figure 1 shows a plan view of a section of an anti-skid device according to this invention;

Figure 2 shows in enlarged scale a feasible guidance of threads to be used in the cord for a reticular anti-skid device according to this invention; and

Figure 3 shows a view of Figure 2 in the direction of arrow A.

The anti-skid device according to this invention comprises a reticular strip manufactured from enmeshed individual cords 1. This reticular strip has along each of its edges an elastic cord 2, each of which is enmeshed with adjoining cord members 1a, 1b. Each cord 1 comprises two filaments 3, 4 which are knitted together cross-wise on two needle bars, as illustrated in Figures 2 and 3.

It is self-evident that thread guidances different from those illus-

treated in Figures 2 and 3 are feasible as well. However, the decisive factor is that there has to be an enmeshing of the individual filaments, because this alone permits in a single operation the forming of a net-like structure without knots. The elastic cords provided along the edges of the strip, which cords may be made from rubber, for example, are made from enmeshed elastic filaments permitting their connection by means of enmeshing simultaneous with the manufacture of the individual cords. The free ends of the individual cords may be interconnected by bonding, glueing or the like.

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THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A reticular anti-skid device for motor-vehicle tires comprising knitted cords having individual synthetic plastic filaments and being interconnected in meshed fashion at predetermined intervals thereby forming a net, wherein the free ends of the individual cords in the device are interconnected by means of bonding or glueing; the individual filaments forming each knitted cord are made from polyurethane having an inner reinforcement made from either natural fibre filaments, or synthetic plastic fibre filaments, or synthetic plastic filaments, or metal filaments; the individual filaments of each cord are knitted cross-wise on two needle bars each; and at the outer edges of the device the cords are enmeshed at predetermined intervals with an elastic cord.

2. A reticular anti-skid device according to claim 1, characterized in that the inner reinforcement is formed by either polyamide or polyester filaments.

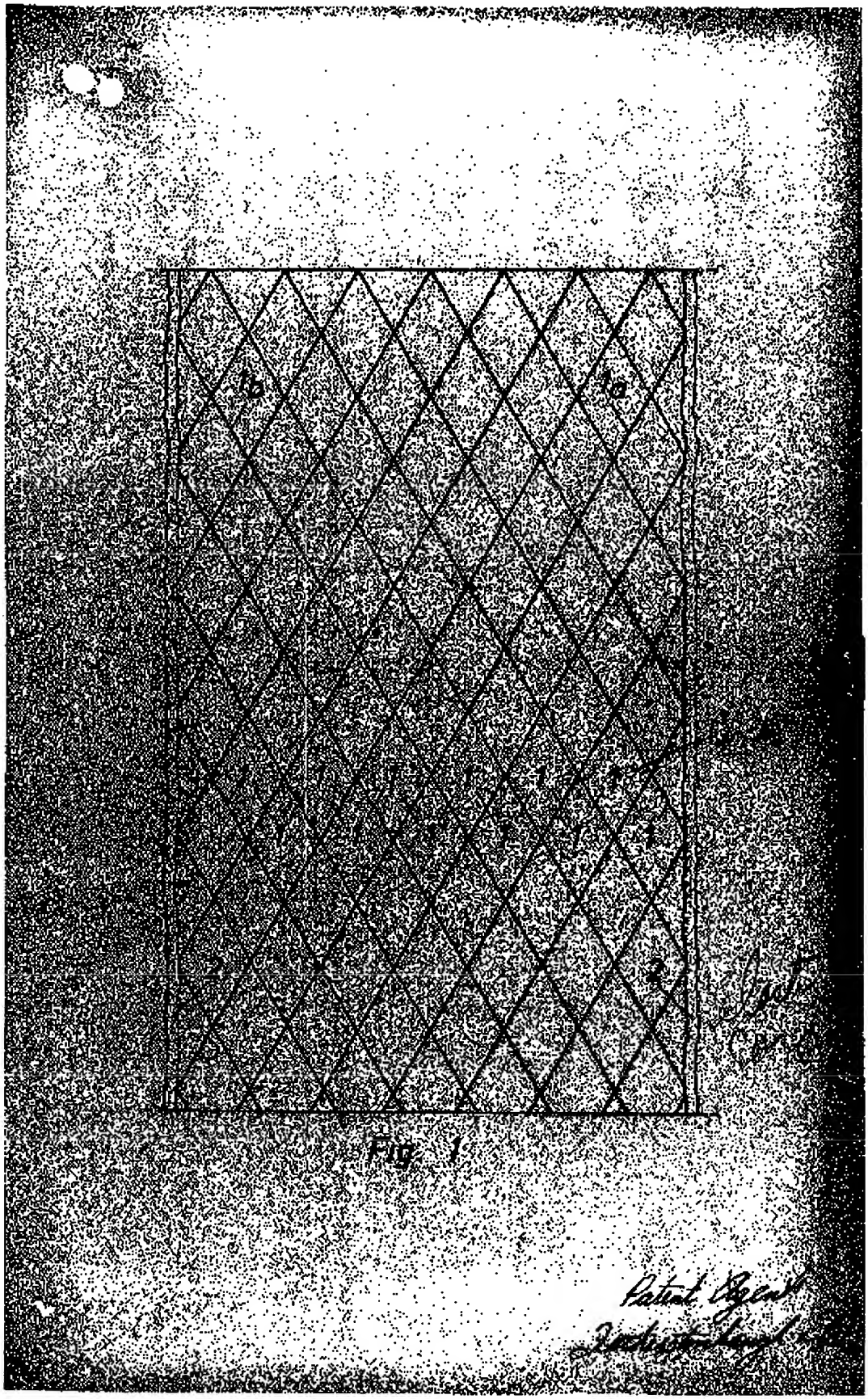

Fig 1

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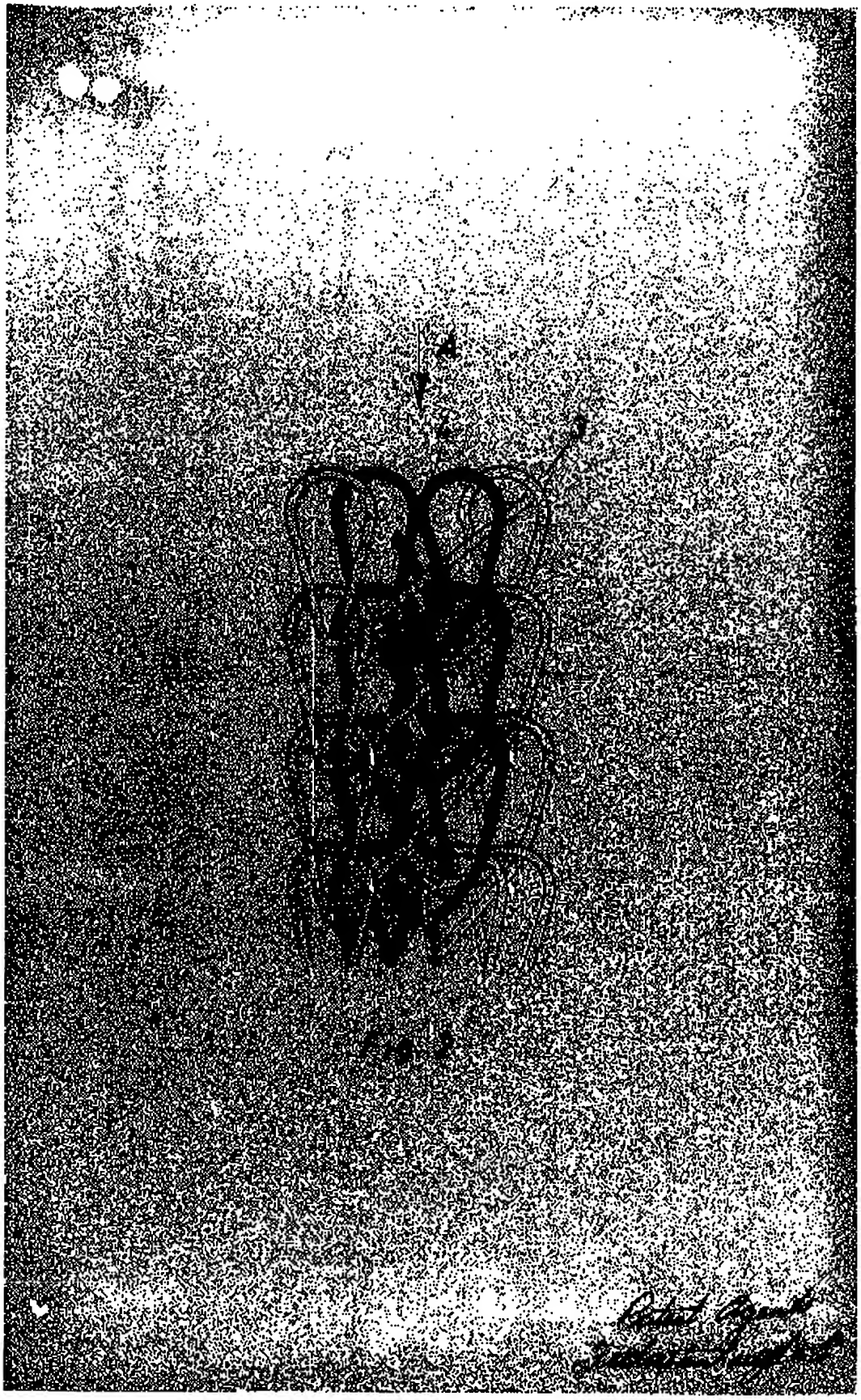

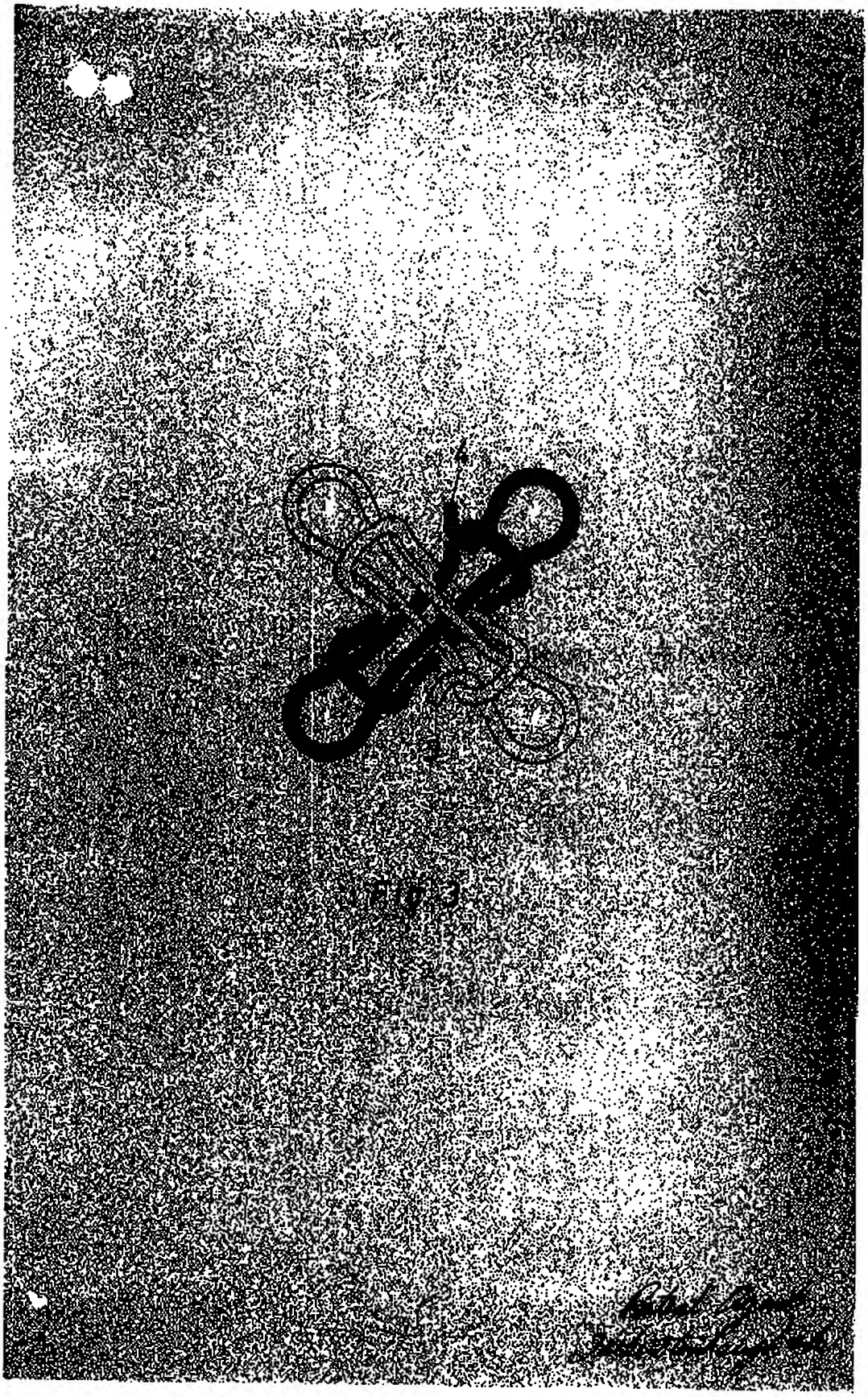

FIG 3